

In the Claims:

1-36 (Cancel)

37. (Currently Amended) An ~~isolated~~ nucleic acid molecule encoding a polypeptide, said polypeptide comprising an N-terminal fragment DELTA of Prx VIhum including a nucleotide sequence of SEQ ID NO:4, said polypeptide having a length of 177 a.a. and having a polypeptide with an antioxidant activity which is close to the antioxidant characteristic of full-size Prx VIhum. comprising an active fragment of human peroxiredoxin (DELTA Prx V1hum) of SEQ ID NO:4 wherein SEQ ID NO:4 has a length of 177 ab.

38. (Currently Amended) An expression vector comprising the ~~isolated~~ nucleic acid molecule of claim 37, operationally associated with a promoter.

39. (Previously presented) A cell comprising the expression vector of claim 38.

40. (Currently Amended) A method for producing a recombinant active N-terminal fragment of human peroxiredoxin DELTA.Prx V1hum having an amino acid sequence of SEQ ID NO:4, having a length of 177 a.a., and having antioxidant activity which is close to the antioxidant characteristic of full-size PRx VIhum, which method comprises: (a) culturing the cell of claim 39 so that the active fragment of human peroxiredoxin DELTA.Prx V1hum is produced by the cell in a culture; and (b) recovering the active N-terminal fragment of human peroxiredoxin DELTA.Prx.V1hum from the culture, the cell, or both.

41. (Cancelled)

42. (Currently amended) ~~The A pharmaceutical composition of claim 41, for~~ enhancing the antioxidant protection of mammals from pathology-inducing exogenous

and/or endogenous factors selected from the group consisting of: a) bacterial or viral infection, b) action of thermal and chemical factors: burn, frostbite; c) mechanical injuries: wounds, fractures, concussions; d) exposure to ionizing and non-ionizing radiation, containing a clinically efficacious amount of peroxiredoxin Prx V1hum, a fragment DELTA of Prx V1hum as defined in claim 1, and a dihydrolipoic acid selected from the group consisting of:

- a) peroxiredoxin Prx V1hum;
- b) fragment DELTA of Prx V1hum;
- c) peroxiredoxin Prx V1hum and dihydrolipoic acid;
- d) fragment DELTA of Prx V1hum and dihydrolipoic acid; and
- e) peroxiredoxin Prx V1hum and fragment DELTA of Prx V1hum and

dihydrolipoic acid and pharmaceutically acceptable additives.

~~wherein said pharmaceutical composition comprises the fragment of recombinant human peroxiredoxin DELTA.PRX.VI hum with an antioxidant activity of SEQ ID NO:4, a pharmaceutically acceptable carrier and further comprises recombinant human peroxiredoxin VI with an antioxidant activity of SEQ ID NO:2, a dihydrolipoic acid or both.~~

43. (Currently Amended) The pharmaceutical composition according to claim 42, wherein the ratio (w/w) of human peroxiredoxin DELTA.Prx.V1hum as defined in claim 1 to ~~dihydrolipoic~~ dihydrolipoic acid is from 1:1 to 50:1.

44. (Currently Amended) The pharmaceutical composition according to claim 42, wherein the ratio (w/w) of ~~peroxiredoxin.Prxhum~~ peroxiredoxin Prx V1hum to dihydrolipoic acid is from 1:1 to 50:1.

45. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering the composition according to claim 41 to the mammal.

46. (Withdrawn) A method for enhancing antioxidant protection in a mammal

comprising administering to the mammal the composition according to claim 41 and another therapeutic agent that is administered to the mammal before, simultaneously with or after the composition according to claim 41.

47-49. (Cancel)

50. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering the composition according to claim 42 to the mammal.

51. (Withdrawn) A method for enhancing antioxidant protection in a mammal comprising administering to the mammal the composition according to claim 42 and another therapeutic agent that is administered to the mammal before, simultaneously with or after the composition according to claim 42.

52-61. (Cancel)

62. (New) The nucleic acid molecule of claim 37, wherein said N-terminal fragment DELTA of Prx V1hum including a nucleotide sequence of SEQ ID NO:4 has antioxidant activity which is between 80%-90% of the antioxidant characteristic of full-size Prx V1hum.

63. (New) The nucleic acid molecule of claim 37, wherein said encoded polypeptide has antioxidant protection of mammals from pathology-inducing exogenous and/or endogenous factors selected from the group consisting of: a) bacterial or viral infection, b) action of thermal and/or chemical factors (burn, frostbite), c) mechanical injuries (wounds, fractures, concussions), and d) exposure to ionizing and non-ionizing radiation.

64. (New) A medicament for treatment of a human or animal from pathology-inducing exogenous and endogenous factors selected from the group consisting of: a) bacterial or viral infection, b) action of thermal and chemical factors: burn, frostbite; c) mechanical injuries: wounds, fractures, concussions; d) exposure to ionizing and non-

ionizing radiation comprising peroxiredoxin PrxVI, coded by a nucleic acid molecule having a nucleotide sequence SEQ ID NO: 2 and fragment DELTA of Prx VIhum includes a nucleotide sequence SEQ ID NO: 4 as defined in claim 37.